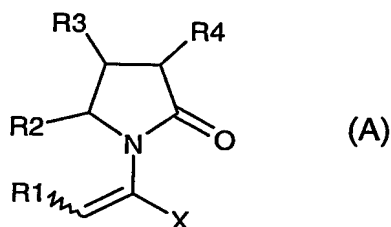


## Claims

1. A catalyst comprising a chiral transition metal-(1,2-bis(2,5-dialkylphospholano)benzene) complex immobilised on a zeolitic support having
  - a molar ratio  $\text{SiO}_2/\text{Me}_2\text{O}_3$  of between 5 and 50 wherein Me designates an element of valence 3 and
  - an external surface area, as developed by pores having a mean diameter higher than 0.8 nm, of at least  $90 \text{ m}^2/\text{g}$ .
2. The catalyst as claimed in claim 1, having an ultra-micropore volume of at least  $0.08 \text{ cm}^3/\text{g}$ .
3. The catalyst as claimed in claims 1 or 2, wherein the support is a BETA topology zeolite.
4. The catalyst as claimed in any one of claims 1 to 3, wherein the zeolitic support has a molar ratio  $\text{SiO}_2/\text{Me}_2\text{O}_3$  of at most 30.
5. The catalyst as claimed in any one of claims 1 to 4, wherein Me is Al.
6. The catalyst as claimed in any one of claims 1 to 5, wherein the transition metal is Rh.
7. Process of hydrogenation of prochiral substrates with a catalyst according to any one of claims 1 to 6.
8. Process as claimed in claim 7, wherein the substrates are functionalised olefines.
9. Process as claimed in claim 8, wherein the substrate is a compound of general formula (A)



wherein

X is  $-\text{CONR}^5\text{R}^6$ ,  $-\text{COOR}^7$ ,  $-\text{COR}^8$  or  $-\text{CN}$ ;

$\text{R}^1$  is hydrogen, alkyl, aryl, heterocycloalkyl, heteroaryl, halogen, nitro, cyano, acyl, ester, amido or carboxy.

5  $\text{R}^2$ ,  $\text{R}^3$ ,  $\text{R}^4$  are the same or different and each is, independently, hydrogen, halogen, hydroxy, amino, nitro, cyano, acyl, acyloxy, sulfonyl, sulfinyl, alkylamino, carboxy, ester, ether, amido, sulfonic acid, sulfonamide, alkylthio, arylthio, alkyl, alkoxy, oxyester, oxyamido, aryl, arylamino, aryloxy, heterocycloalkyl, heteroaryl or alkenyl;

10  $\text{R}^5$  and  $\text{R}^6$  are the same or different and each is, independently, hydrogen, hydroxy, alkyl, aryl, heterocycloalkyl, heteroaryl, alkoxy, aryloxy;  $\text{R}^7$  is hydrogen, alkyl, aryl, heterocycloalkyl or heteroacyl; and

$\text{R}^8$  is hydrogen, hydroxy, thiol, halogen, alkyl, aryl, heterocycloalkyl, heteroaryl, alkylthio, arylthio.

15 10. Process as claimed in claim 9, wherein the substrate is methyl(Z,E)-2-(2-oxotetrahydro-1H-1-pyrrolyl)-2-butenolate.

11. Process as claimed in any one of claims 7 to 10 carried out in a solvent selected from ethers, alcohols and their mixtures.

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12. Process as claimed in claim 11 wherein the solvent is diisopropyl ether or its mixture with methanol.